



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/613,138	07/03/2003	Jeff Moler	VTE-138-B	6815

7590

09/21/2005

Andrew R. Basile
Young & Basile, P.C.
Suite 624
3001 West Big Beaver Road
Troy, MI 48084

EXAMINER

ADDISON, KAREN B

ART UNIT

PAPER NUMBER

2834

DATE MAILED: 09/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/613,138

Applicant(s)

MOLER ET AL.

Examiner

Karen B. Addison

Art Unit

2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) 22 and 23 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1,2,5-7,9-11 and 19 is/are rejected.
- 7) ☒ Claim(s) 3,5,8,12,-18,20-21 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of claims 1-21 in the reply filed on 4/28/05 is acknowledged. The traversal is on the ground(s) that the restriction would be an undue burden on the examiner is noted. This is not found persuasive because the combination as claim does not require a design tool for finite analysis. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

The requirement is still deemed proper and is therefore made FINAL.

Allowable Subject Matter

1. Claims 3,5,8,12-18 and 20-21 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Prior art fails to show, bimaterial layers forming at least a portion of the support structure and spaced from the actuator, a first material layer made from a material having a different coefficient of thermal expansion relative to a second material layer such that the bimaterial layers exert a force with respect to the support structure to deflect the support structure in an opposite direction from any deflection caused by a change in ambient temperature. Prior also fails to show, the opposing forces are sufficient to limit temperature-induced movement of the support structure caused by

driving the support structure in response to an electrical activation of the actuator(1); and means for interacting with the support structure, for compensating for different coefficients of thermal expansion of materials used in the support structure and the actuator in response to variations in temperature over a predetermined operating temperature range. Wherein the temperature compensating means comprises at least one compensation member operably associated with the support structure(4) and spaced from the actuator(1), the compensation member made from a material having a different coefficient of thermal expansion relative to the support structure such that the compensation member(1) exerts a force on the support structure in an opposite direction from any deflection force inherent in the support structure caused by a change in ambient temperature. Wherein the temperature compensating means further comprises, the support structure(4) formed of a first material having a different coefficient of thermal expansion relative to a temperature compensating member(5) formed of a second material such that the two different materials exert opposing forces on one another in response to changes in ambient temperature. Wherein, the support structure further comprises, at least one arm portion(4 is part of the support structure) pivotally extending from a side portion through an integrally formed hinge portion(located above fig. 1) located between the side and arm portions(4). Wherein, the at least one arm portion folds back over the respective side portion.

4. Claims 1-2 and 6-7 are rejected under 35 U.S.C. 102(b) as being anticipated by Hoffman(us 6762536).

Hoffman discloses a transducer in fig.1 and 3 comprising: a temperature compensating means further comprises a temperature compensating member(6) operably connected with the support structure(3) and spaced from the actuator extending(1) substantially across an entire width of the support structure. Wherein, the temperature compensating means further comprises a temperature compensating member(6) operably connected with the support structure and located on an outer surface of the support structure.

5. Claims 1 and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Stahlhuth(4808874).

Stahlhuth discloses an actuator in fig. (1) operably associated with the support structure(14,24) for proportionally driving the support structure in response to an electrical activation of the actuator(12); and means, interacting with the support structure, for compensating for different coefficients of thermal expansion of materials(13,23) used in the support structure and the actuator(12) in response to variations in temperature over a predetermined operating temperature range. Wherein, the actuator further comprise means for preloading the actuator with a compressive force(18,28).

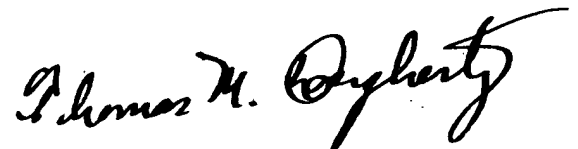
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karen B. Addison whose telephone number is 571-272-2017. The examiner can normally be reached on 8:00 to 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Darren Schuberg can be reached on 571-272-2044. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

KBA
9/15/05



TOM DOUGHERTY
PRIMARY EXAMINER